



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246



3/13/20

D5810-3

Job Sheet 207551



POSITIVE RECALL

EFFECTIVE 3/13/20 AUTH *Marie*

RELEASED DATE

POSITIVE
RECALL

Part No: D5810-3

Job Qty: 4 pcs

Part Name: Long Rim



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/27/20

Job Tracking No:

Due Date: 4/27/20

Created By: Jennifer Renwick

Type: Stock

Description:

Note: URF 20-522 DWG D5810 Rev A IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Large Fab - Welded Assy-1	4 pcs	4/27/20	4/27/20	0.00	0.40	Large Fab - 1		
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		<i>MAF</i>
							Large Fab - 12		
120	QC 5	4 pcs	4/27/20	4/27/20	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaero.com

Container No: S263890



Part: D5810-3

Job No: 207551

Serial No/Batch: S263890

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/16/20

DAS
MAR 17 2020
1-89

130 Packaging 3-1 - Stock - B4B 4 pcs

4/27/20

0.00 0.00

Packaging 3 - 1 - B4B

Packaging 3 - 2 - B4B

Packaging 3 - 3 - B4B

Packaging 3 - 4 - B4B

Packaging 3 - 5 - B4B

Packaging 3 - 6 - B4B

Packaging 3 - 7 - B4B

Packaging 3 - 8 - B4B

Packaging 3 - 9 - B4B

Packaging 3 - 10 - B4B

Packaging 3 - 11 - B4B

Packaging 3 - 12 - B4B

Packaging 3 - 13 - B4B

Packaging 3 - 14 - B4B

Packaging 3 - 15 - B4B

Packaging 3 - 16 - B4B

Packaging 3 - 17 - B4B

Packaging 3 - 18 - B4B

Packaging 3 - 19 - B4B

Packaging 3 - 20 - B4B

Packaging 3 - 21 - B4B

Packaging 3 - 22 - B4B

Packaging 3 - 23 - B4B

Packaging 3 - 24 - B4B

Packaging 3 - 25 - B4B

Packaging 3 - 26 - B4B

Packaging 3 - 27 - B4B

Packaging 3 - 28 - B4B

Packaging 3 - 29 - B4B

Packaging 3 - 30 - B4B

Packaging 3 - 31 - B4B

Packaging 3 - 32 - B4B

Packaging 3 - 33 - B4B

Packaging 3 - 34 - B4B

Packaging 3 - 35 - B4B

Packaging 3 - 36 - B4B

Packaging 3 - 37 - B4B

140 QC 21 - SA

4 pcs

4/27/20

0.00 0.00

QC 21 - SA - 21

QC 21 - SA - 70

QC 21 - SA - 53

MAR 18 2020

Part Op 110 - Fabricate per Drwg - 1-Cut as per DWG. 2-Debur.

Descriptions: 120 - QC5- Inspect part completeness to step on W/O

130 - Identify as per dwg & Stock Location: *W4004*

140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.750W.035	4130 Square Tube 0.750 X 0.035W	32.4000 ft (5.1 ea)	110-Large Fab - Welded Assy-1	<i>S250714</i>

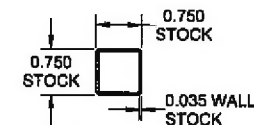
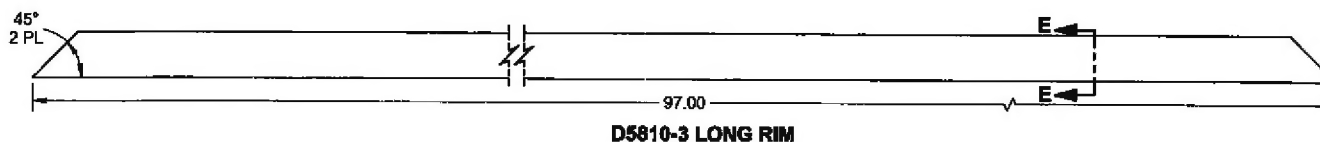
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Large Fab - Welded Assy-1	M4130NTS0.750W.035	32	324	0

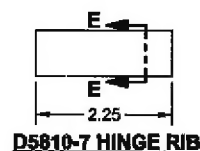
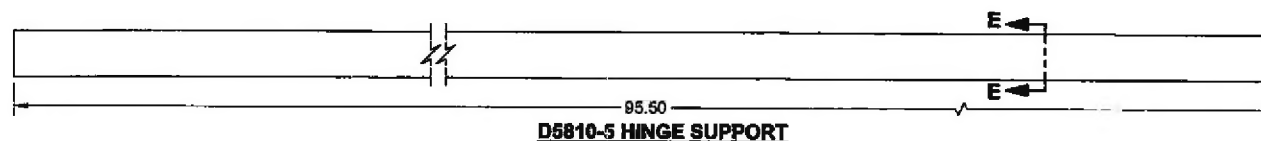
Part Specifications

Specifications could not be found.

8 7 6 5 4 3 2 1



SECTION E-E



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 207551 M.C.S
2003-12

UNDER REVIEW

URF 2020-522 20.02.14 (NO)

NOTES:

- 1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 3/4 X 0.035 WALL
PER MIL-T-8738 OR AMS 6371/6360/6361/6362/6373/6374
REF DART SPEC M4130N-TS0.750W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: -3: 2.64 lbs
-5: 2.62 lbs
-7: 0.06 lbs

RELEASED
2020 FEB 18 *NO*

APPROVED

DESIGN	ZF	DART AEROSPACE LTD	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO.	REV. A
MFG. APPR.	DD	D5810	SHEET 4 OF 7
APPROVED	NO	TITLE	SCALE
DE APPR.	CP <i>CP</i>	XL BASKET BODY	NTS
DATE	20.01.20	COPYRIGHT © 2020 BY DART AEROSPACE LTD THIS DOCUMENT IS PREPARED FOR THE EXCLUSIVE USE OF THE CUSTOMER AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	

INSPECTION SHEET

**DAS
40
9-89**

Engineering Approval:
(If necessary)

H:\FORMS\Quality Assurance\approved QA\Inspection Sheet revB



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB045594**



Supplier: FAC001-VU
Factory Steel
14020 Oakland Ave.
Detroit, MI 48203 USA
Phone: 313 883 6300
Fax: 313 883 4883

PO No: POHB045594

PO Date: 1/16/20

Due Date: 2/4/20

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

JAN 16 2020

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.750W.035			4130 Square Tube 0.750 X 0.035W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	600 ft	0 ft	600 ft	\$7.25/ft	\$4,350.00
										609 ft 609			
2		M4130NTS1.000W.065			4130 Square Tube 1.000" X 1.000" X 0.065"W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	160 ft	0 ft	160 ft	\$11.70/ft	\$1,872.00
										171 ft 603			
Grand Total:												\$6,222.00	

PACKING LIST

No. 67371

PG 1 OF 1

FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVENUE DETROIT, MI 48203		CUSTOMER PO POHBD45594		BUYER CHANTEL LAVOIE Tel (613) 632-3336 Fax (613) 632-4443		SHIP DATE 01/21/2020	
(313)883-6300 PHONE (313)883-4883 FAX		CUSTOMER JOB		SALES ORDER 60306		SHIP VIA ****TRUCK****	
SOLD TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		ORDER DATE 01/16/2020		SALES REP MICK HALON		RESALE # 59-2958719	
		SHIP TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SHIP INST CALL WHEN READY		CARRIER TRUCK	
				PRO#		BLIND Y/N N	
				TERMS NET 30 DAYS		FOB DETROIT	

LINE	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT		
1	609.917 FT	4130N CD SMLSS SQ TUBE 3/4" X .035W Tag M111 Ref # Heat 153513 023679 616506	Pcs Length 26 20' / 24' RL	20' / 24' RL Feet 609.917	207.554 Weight 207.554		
2	171.333 FT	4130N CD SMLSS SQ TUBE 1" X .065W Tag M111 Ref # Heat 153514 072143 072067859	Pcs Length 7 22' / 23' RL	22' / 23' RL Feet 171.333	141.606 Weight 141.506		
3	1 PCS	PACKING CHARGES MTRS (CIRCLE) FAX SHIPMENT INVOICE ALL DATE: _____ INITIAL: _____					

TOTAL WT 349 LBS											
RECEIVED BY - SIGNATURE				RECEIVED BY - PRINTED NAME				DATE RECEIVED			

LIWEI

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130NTS D. 750W. 035 PO / BATCH NO.: POMB045594
 DATE: JAN 27 2020 5250794

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 609 PL
 QUANTITY INSPECTED: 609 PL
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .750 W. 035
 THICKNESS RECEIVED: .750 W. 035
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	MIL-T-6336
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	616506
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: _____	DAS	SIGNED OFF BY: _____	
DATE: <u>JAN 27 2020</u>	<u>32</u> 0.89	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

LIVE 1
M4130NTS 0.750W.035

S250794

616506



DESIGN PJT	DRAWN BY PJT	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI4130N STEEL SQUARE TUBING PER ONE OF
THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371,
6360, 6361, 6362, 6373 OR 6374

DAS
82
9-89

PART NUMBER: M4130N-TS | A.AAA | W | .TTT |

WHERE A.AAA = WIDTH IN INCHES
TTT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

RELEASED
05.02.09 [Signature]

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PLYMOUTH TUBE CO.

1208 East 12th Street, Streator, Illinois 61354
Phone: (815) 675-1815 Fax: (815) 675-7528

TRUST YOUR SOURCE, ACCEPT NO SUBSTITUTES



PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

175629 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023679

PCS/HEAT 0

HEAT NUMBER 616506

MELT SOURCE Benteler Steel & Tube-Germany

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE								
PART DESCRIPTION SHSQ0750035J300 ***** Square OD ***** Side1: 0.7500 Max:0.7600 Min:0.7400 Side2: 0.7500 Max:0.7600 Min:0.7400 Wall: 0.0350 Max:0.0380 Min:0.0320 Length: 10.00/26.00 Spec: Mil-T 6738B Seamless Aircraft Grade: 4130 Anneal: Cond N													
CERTIFICATION REQUIREMENTS FAR BAA (FAR 52.225-1 Buy America Act Supplies), DFARS 252.225-7001 Buy America Act & Bal. of Payments Program FAR TAA (FAR 52.225-5 Trade Agreements)(Paragraph 1,3,4,5)This material was Eddy Current tested and conforms to the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6738B, 6380P & 6371L. Material produced in accordance to ASTM A-518-17 and MIL-T 6738B. This material meets Plymouth ProMoly specifications. Jominy results: J(5/16")=45 J(8/16")=38													
Chemical Analysis													
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.310	.55	.011	.002	.230	.036	.87	.18	.12	.001	.16	.002	.002	.010
Physical Properties													
Freq.	Severity	Grain Size											
.020	.015	9											
Mechanical Properties													
TEST	UNITS	TESTS	HIGH	LOW	AVERAGE	STD-DEV							
Tensile	Psi	6	126660	125480	126066	482							
Yield	Psi	6	120930	119880	120387	374							
Elongation	%	6	21	20	20	1							
Rockwell C	Rc	6	25	25	25	0							
TEST	RESULT												
Decarb/OD	Pass												
Total ID/OD decarb	Pass												

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

James J. Cross
Quality Assurance

①



PLYMOUTH TUBE CO.

1209 East 12th Street, Streator, Illinois 61361
Phone: (815) 673-1616 Fax: (815) 673-2343

TRUST YOUR SOURCE, ACCEPT NO SUBSTITUTES



PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

175629 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023678

PCS/HEAT 0

HEAT NUMBER 616506

MELT SOURCE Benfield Steel & Tube-Germany

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE
3887	SQ-N34035			/	

PART DESCRIPTION	SHSQ0750035J300
------------------	-----------------

Additional Specification(s)

TEST	UNITS	#TESTS	HIGH	LOW	AVERAGE	STD-DEV
Brinell	Brinell	6	253	253	253	0
This test report data is for the heat Chemistry Stated above.						
The material in this test report is:						
1) Drawn in the USA						
2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination.						
3) NAFTA compliant.						
End of Certification						

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Janet D. Russell
Quality Assurance

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> </div> <div> Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/> </div> </div>			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Presservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div>		FAULT CATEGORY <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread </div> </div>			
Other/Details:					